



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Shuichi KITAMURA et al.

Group Art Unit: 1713

Serial Number: 10/500,082

Examiner: Michael Bernshteyn

Filed: June, 24, 2004

For: Polyvinyl alcohol film

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Shuichi Kitamura residing at c/o THE NIPPON SYNTHETIC CHEMICAL INDUSTRY CO., LTD., Functional Film Development Center, 35, Kanda-cho 2-chome, Ogaki, Gifu, Japan duly deposes and says:

1. That he graduated from Department of Applied Chemistry, Faculty of Engineering, Osaka Institute of Technology, Osaka, Japan, in the year 1986;
2. That since 1991, he has been employed in THE NIPPON SYNTHETIC CHEMICAL INDUSTRY CO., LTD.;
3. That from 1991 he has been engaged in research and development on polyvinyl alcohol films;
4. That he has read and is familiar with the instant application for United States Letters Patent and Office Action thereto mailed September 27, 2007; and
5. That he has made experiments in order to prove that both glass transition temperature and  $\alpha/\beta$  ratio of the polyvinyl alcohol film

disclosed in JP-09-324096 is out of the range of the present invention.

## EXPERIMENTS

### Samples

Polyvinyl alcohol film (S1) was prepared as in the same manner disclosed in Example 1 of the present specification except that 3 pars of glycerol was added instead of 20 parts of trimethylolpropane.

### Evaluation

Measurement of Tg, storage modulus  $\alpha$ , and storage modulus  $\beta$  of the film was measured according to the specification of the present application. Then  $\alpha/\beta$  ratio of the film (S1) was calculated.

## Results and Discussion

Results of Tg,  $\alpha$ ,  $\beta$  and  $\alpha/\beta$  of film (S1) are shown in Table I.

Table I

	film (S1)
Glass transition temperature (°C)	32
storage modulus $\alpha$ (Pa)	$3.8 \times 10^8$
storage modulus $\beta$ (Pa)	$6.3 \times 10^6$
the $\alpha/\beta$ ratio	60.3

The data of film (S1) was compared to the data described in the present specification in Table II.

Table II

	film (S1)	EXAMPLE 1	EXAMPLE 2
Glass transition temperature (°C)	32	6	8
the $\alpha/\beta$ ratio	60.3	6.7	5.1

Table II clearly shows the film (S1) which is similar to the examples of Nishiguchi (JP 09-324096) has higher Tg (>20 °C) and higher  $\alpha/\beta$  ratio (> 10) than those of EXAMPLEs 1 and 2.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

This 22<sup>nd</sup> day of October, 2007

by Shuichi Kitamura  
Shuichi Kitamura

We, the undersigned witnesses, hereby acknowledge that Shuichi Kitamura is personally known to us and did execute the foregoing Declaration in our presence on:

Date: October 22, 2007      Witness Toshihiro Shimizu

Date: October 22, 2007      Witness Shinji Kashiwagi